APPRAISAL BULLETIN

PUBLISHED IN THE INTERESTS OF REAL ESTATE ANALYST SUBSCRIBERS BY

ROY WENZLICK & CO.

Real Estate Economists, Appraisers and Counselors

OCTOBER 16
1953

Volume XXII

Number 46

Copyright 1953 by ROY WENZLICK & CO. - Saint Louis
REAL ESTATE ECONOMISTS, APPRAISERS AND COUNSELORS

CAPITALIZATION AND THE RETURN OF CAPITAL

THE income approach to value is undoubtedly the most important of the three approaches to the valuation of income-producing properties. This is particularly true when value is considered to be the capitalized sum, or present value, of all future benefits and returns which can reasonably be expected during the remaining useful life of a property. It is on the basis of this value that income properties are usually purchased.

We have discussed earlier in our reports the proper selection of a capitalization rate (see Appraisal Bulletin, March 26, 1952) - a rate that is required to attract investors in the real estate market. Not only is the investor interested in the rate of return that he will make on his investment but he also is interested in how his investment shall be returned to him. As a general rule land is considered perpetual. Consequently, it is only the investment in the improvements on the land that deteriorates, and that, therefore, must be returned to the investor. The process of returning the investment fund to the investor is called depreciation. In other words, depreciation is the return of the capital invested in the improvements and should not be confused with accrued depreciation (physical deterioration, functional obsolescence and economic depreciation). It is the variances in methods of applying depreciation that may cause wide differences in value.

There are three generally accepted methods of returning the capital fund: namely, (a) straight line depreciation, (b) the annuity premise (Inwood coefficient) or the compound interest valuation premise, and (c) the sinking fund valuation premise (Hoskold method). There are methods of processing the income other than the three methods described, but these are not accepted as frequently as those shown above.

Using straight line depreciation, an equal amount is returned annually and may be put aside, without interest, so that at the end of a specified number of years (the remaining economic life of the property), the entire capital fund will be accumulated, replacing the original investment in the improvements. This amount generally includes the capital fund investment in the improvements to the land only and does not include the return on the land investment except in very rare instances. (See Appraisal Bulletin, March 16, 1951.)

The second method of returning the capital fund is provided for in the compound interest valuation premise (Inwood coefficient). In this instance the annual amount returned as depreciation, or the return of the capital fund, is immediately used to reduce the capital investment. In other words, the amount returned is immediately deducted from the amount invested and all future income will be on this successively smaller amount.

A third method is to set up a sinking fund. In this instance the annual return of the capital fund is reinvested at a safe rate of interest, which is a low non-speculative rate usually earned by Government bonds of various sorts. Three percent is accepted as the maximum rate over a long period of years that may be earned by a sinking fund. At the end of the economic life of the improvements, the amount credited to this fund, plus its accumulated compound interest during the period, should equal the amount invested in the improvements to the land. The Hoskold sinking fund valuation premise provides for the application of this theory. The application of this latter premise is not generally accepted in the appraisal field except under very unusual circumstances.

One of the important questions for the appraiser to decide is the method of processing the income stream. We generally use the annuity premise (b) when the income stream has the characteristics of an annuity. In order to have these characteristics, the income stream should be guaranteed for a fairly long period of time and for a definite amount. This amount may be a level sum or may increase or decrease as time goes on. An example of an income stream that could be treated as an annuity is that from a store building in an excellent location that is under a 20-year lease at specified rentals to a large, long established and successfully operated store. Under these circumstances the specified income could be treated as an annuity and the Inwood coefficient applied. However, if, as is generally the case, the income does not have these characteristics, i. e., the income is not stable or the property is not under long-term lease, straight line depreciation is appropriate as a means of returning the capital sum to the investor.

The methods of processing the income, although they are generally standardized, have various ramifications. For instance, some appraisers adjust the present income and expenses on the basis of their estimates of the future. They feel justified in using the annuity premise (b) because of the adjustments that they make. Others adjust their capitalization rate because of the uncertainty (risk), and still use the annuity premise. For instance, if the income was for a 20-year period and was assured by a lease by a responsible party, they would use a 6% capitalization rate and employ the annuity premise. If, on the other hand, the rentals were on a month-to-month basis with no guarantee as to the future income, they would still use the annuity premise, but would use a 7% rate, the extra 1% being added for the additional risk factor or the uncertainty of the income. Basically, all of these applications are correct, but the application must be appropriate to its respective process.

In order to demonstrate the variation in values that may be secured by using these three methods, we have taken a hypothetical property subject to the following conditions: By the comparative method the land value has been established at $50,000. We will assume that the remaining economic life of the improvements is 25 years. A further assumption is made that the net annual return before depreciation is $25,000. The capitalization rate in all examples is assumed to be 7%, and the safe rate of interest for sinking fund purposes is 3%.

EXAMPLE I

(a) Straight Line Depreciation

Annual net return	$25,000	
Less return on land (7% of $50,000)	3,500	
Net income imputable to improvements	$21,500	
Capitalized at 7% + 4% depreciation (25-yr. economic remaining life) = 11%		
$21,500 ÷ 11%		$195,454
Plus value of land (by comparison)		50,000
Total value - land and improvements		$245,454

EXAMPLE II

(b) Inwood Coefficient (Annuity Premise or Compound Interest Valuation Premise):

Annual net return	$25,000	
Less return on land (7% of $50,000)	3,500	
Net income imputable to improvements	$21,500	
Capitalized at 7% for 25 years		
$21,500 x 11.654		$250,561
Plus value of land (by comparison)		50,000
Total value - land and improvements		$300,561

EXAMPLE III

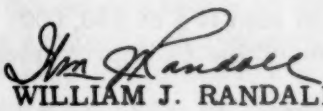
(c) Hoskold Sinking Fund Valuation Premise

Annual net return	$25,000	
Less return on land (7% of $50,000)	3,500	
Net income imputable to improvements	$21,500	
Capitalized at 7% speculative rate and a 3% safe rate		
$21,500 x 10.264		$220,676
Plus value of land (by comparison)		50,000
Total value - land and improvements		$270,676

An examination of the three examples shows relatively wide discrepancy in values. The low value indicated is $245,454, which was the result of applying straight line depreciation (a) as a means of returning the capital investment. The

high value of $300,561 was concluded by the application of the annuity premise (b). This premise gives a value 22% higher than that concluded by the application of straight line depreciation. The Hoskold sinking fund valuation premise (c) gives a value approximately midway between the other two approaches, or 10% higher than that achieved through the use of straight line depreciation.

Some critics would probably claim that there is too great a difference between the high and low results. In our opinion, the difference is justified. If the income stream is guaranteed for a long period of time when the annuity approach is used, a considerably higher value is justified than if the income stream is purely speculative and the straight line method employed.



WILLIAM J. RANDALL, M.A.I.